

the RARS

Exciter

Raleigh Amateur Radio Society



Worldwide Friendship

December, 2003 - Number 392

HAPPY HOLIDAYS



The NC State Fair was held October 17-26, 2003

This mast was provided and erected by Byron King K4NGJ (Byron is the permanent Troll at Gate 4, and also President of JARS). The radios in the Red Cross worked well with the new mast. More pictures on pages 8.



The Exciter

The **Exciter** is the monthly newsletter of the Raleigh Amateur Radio Society. It is available in both printed and electronic form. The printed version is mailed to members just before each club meeting. The electronic form, in Adobe Acrobat PDF format, is e-mailed about a week earlier.

We solicit both articles and advertising. The deadline for submissions is first Friday of the month or Friday after the monthly meeting. Contact the Editor.

The views contained in the Exciter are those of the individual authors, and are not necessarily the views of the Editor, or the Raleigh Amateur Radio Society.

The Raleigh Amateur Radio Society

The Raleigh Amateur Radio Society, Inc. (RARS) was founded in 1969 and continues to serve and support the Amateur Radio community in the greater Triangle area. In 1999, we incorporated a new RARS, and obtained 501(c)(3) Non-Profit tax status.

The objectives of the club are to promote worldwide friend-ship through Amateur Radio; to be of public service by providing radio communications in times of disaster, emergency, or civic need; to educate members in radio technique; and to provide training classes to assist in obtaining Amateur Radio licenses.

Anyone interested in Amateur Radio is eligible to apply for membership. Dues for regular licensed amateurs are \$18.00 per year (from July 1 through June 30). Additional immediate family members pay \$5.00 each per year. Dues for licensed amateurs older than 59 or younger than 16 are \$12.00 per year. Dues for non-licensed Associate members are \$9.00 per year.

Applications for membership may be obtained from the treasurer, or the RARS web site (www.rars.org).

Officers

President: Bernard Blackmon W4BRB
919-467-8719
bernardb@mindspring.com

Vice-President: Andy Peterson NI4S
919-845-6251
ni4s@arrl.net

Secretary: Jim Walter KG4FIJ
919-468-5358
jwalter@nc.rr.com

Treasurer: Greg Seamster KE4PAX
919-859-0029
ke4pax@arrl.net

Exciter Editor: Denyse Walter KG4CXR
919-468-5358
kg4cxr@nc.rr.com



INFO

RARS Repeaters in Raleigh:
145.13
146.64
224.64
444.525 (88.5 PL)

WEB SITE <http://www.rars.org>

NEXT RARS MEETING: December 2, 2003 Christmas Party

RALEIGH AMATEUR RADIO SOCIETY MEETINGS

Date: Every first Tuesday of the Month

Location: Forest Hills Baptist Church, at Dixie Trail and Clark Avenue, in Raleigh

Time: 7:30pm. Folks start showing up a bit before 7 to chat, brag and eat donuts.

VE TESTING: The RARS VEs will accept walk-in testing which is February, May, August and November. Please bring a photo ID, your original current license if you have one, and any CSEs you need for credit. Check into the 8:00 pm net every night on the 146.64 repeater or www.rars.org for information.



146.88 145.39, 147.105, & 147.135
Repeaters are supported by PCRN
if you would like to donate please
make checks to:

PCRN
PO Box 12734
Raleigh, NC 27605

More info on PCRN:
<http://www.pcrn.net>



**PLEASE BRING THE FAMILY
TO THE DECEMBER 2nd
HOLIDAY PARTY FOR FUN,
FRIENDSHIP, AND FOOD**

RARS FIELD DAY 2003 RESULTS

RARS came in 3rd in the 7A Class, 33 overall in FD, for the 2003 Field Day.

Some of the top stations were:

#	Call	Score	Cat	QSOs	Power	GOTA Sect Ops Club
1	W3AO	27,834	51A	7,754 2	K3EFM	DC 60 PVRC
17	N8BC	11,154	7A	3,209 2	OH 37	Lake Cty
26	K6AA	10,430	7A	3,621 2	W6TOI	LAX 40 United RAC
33	W4DW	9,412	7A	3,062 2	NC 49	RARS

RARS MEMBERSHIP DUES

Membership renewals and new membership can be paid at RARS meetings, on-line at the club site, or mailed to the RARS treasurer. Mail To:

Greg Seamster
RARS Treasurer
1405 Leanne Court
Raleigh, NC 27606

RARS now accepts credit card payments online for new members and membership renewals. See the RARS website (www.rars.org) for more information. You can join or renew for 1, 2, or 3 years.

NET REPORTS FOR NOVEMBER, 2003

8:00PM DAILY: RARS Evening Net

**Participants 425
Traffic 33/30
Time 698 minutes
Sessions 31**

**8:30PM SAT: Tech & Traders Net
9:00PM MON: SWL/SIG**

**Participants 41
Traffic 1/1
Time 301 Minutes
Sessions 7**



MINUTES OF THE RARS MEETING Tuesday, November 4, 2003

The meeting was called to order by President Bernard Blackmon W4BRB. Four visitors were recognized and welcomed.

Treasurer's Report (W4BRB for KE4PAX): There are currently 255 members. Announcements:

Nominating Committee (Hank K4HM): Presented slate of nominees for 2004 board positions. Asked for nominations from the floor; there were none. KN4AQ moved that nominations be closed, seconded by AC4ZO. KO4TV moved that the secretary call one ballot to approve all nominees, 2nd by KG4CXR. Upon a show of hands, the slate of nominees was elected unanimously. New RARS Board members and positions for 2004 are as follows:

President, Andy Peterson NI4S; Vice President, Dick Bitner W8HYD; Secretary, Virginia Enzor KG4PFA; Public Service Director, Bob Breyer K1RCB; Public Information Officer, Gary Pearce KN4AQ; FM Repeater Chair, Frank Scaraglino KA2FWC; RARS 2004 Hamfest Chair, Hank Montgomery K4HM; RARS Exciter Editor, Denyse Walter KG4CXR; RARS Net Manager, Mary Holtschneider KG4OQA; At-Large Director: Johnnie Maysfield WA9SZL; At-Large Director, Selene Montgomery KG4RMT; At-Large Director, Jim Walter KG4FIJ; RARS Membership Chair, Denyse Walter KG4CXR; ARRL Liaison, Chuck Littlewood K4HF; W4DW/W4RNC Trustee, Jeff Wittich AC4ZO; Education Director, Bob Condor K4RLC; RARS 2004 Field Day Chair, Neal Fisher N4HAF; RARS Volunteer Exam Coordinators, Liz White KO4CK and Joe White WA4GIR; RARS Web Master, Tim Nicholson W4NOT.

Jack W0UCE made a proposal presentation of the "RARS Remote Access HF System." This project would allow operations on HF by those who are not able to operate due to circumstances beyond their control. Feedback will be solicited from the membership to determine future action on this project.

Gary KN4AQ gave an informational briefing about BPL (Broadband over Power Lines).

Tom N4TAB expressed thanks to everyone who assisted Isabel victims down east.

Bernard W4BRB passed along thanks from the Red Cross to all hams who assisted with communications during the State Fair. Door Prizes won by: KG4MYD and KG4OPZ.

Meeting adjourned at 8:50 PM. Respectfully submitted by Jim Walter KG4FIJ, Secretary.

Target Your Market

Our Complete Line of Direct Mail and Printing Services Include:

- Custom Design & Layout
- Professional Printing
- Mailing Lists
- Mailing Labels
- Ink Jet Addressing
- Sorting - Folding
- Inserting - Metering
- Hand Signatures
- *Personal Service*

**One-Stop
Shopping
Convenience**



HIGH PERFORMANCE MARKETING

"For All Your Direct Mail & Printing Needs"

919-870-9915

J. Jay Langley
PO Box 97744
Raleigh, NC 27624
fax: 919-844-0871
PostcardS@bellsouth.net

The Medical Amateur Radio Council (MARCO)

by Bob K4RLC



The Medical Amateur Radio Council (MARCO) is an organization which combines amateur radio and medicine. MARCO was founded in 1965, with the purpose of promoting good will and fellowship among amateur radio operators, worldwide, who are professionals in the healing arts, or who have an interest in the various medical, dental and allied fields which constitute the healing arts. On-the-air network operation is considered an integral part of MARCO activity, and is conducted for the purpose of discussing and exchanging medical and technical information, and, wherever possible, to be of public service by assisting in medical emergencies. For example, a MARCO physician was one of the first to develop the technology to send EKGs (electrical tracings of the heart muscle) via ham radio from deep Africa to cardiac specialists in the United States. This spirit of innovation continues today.

MARCO is a group of health care practitioners who routinely hold HF nets to exchange medical information on illnesses and treatment. Lively debate about the best treatment for illnesses such as heart disease, diabetes, strokes, cholesterol or anything can be heard Sunday mornings at 1000 on 14.308 Mhz. This "net" is of such educational value that it also qualifies the health care participants for credit toward mandated Continuing Medical Education. The Sunday morning net is the primary net, while Marco holds HF nets four other times a week.

Medishare is affiliated with MARCO. Its purpose is to provide medical and dental equipment and medications to underserved areas of the world. Equipment which is not considered state-of-the-art in the United States is harvested from hospitals and universities and given to hospitals in the third world, where it would never be available, and where it helps to ease suffering and save lives. Medishare also donates HF Radio equipment to isolated parts of the world, particularly Africa or Asia, where there is no formal medical care. Villagers trained in first aid can communicate via HF radio with Ham physicians, who direct treatment and care, until the patient regains health or can be transported out of the isolated area. Recently, Medishare donated a Kenwood HF radio to a village without doctors in Malawi. The radio keeps villagers from making a 60-mile trek through malaria-infested jungles to the nearest hospital.

Both MARCO and Medishare are non-profit organizations that survive on donations from health care professionals and the general public. The Marco website is WWW.smbs.buffalo.edu/med/marco.

Medishare is found at WWW.Medishare.org.

MARCO also publishes a fantastic newsletter that combines radio and medical education. Each issue features a "giant" from radio or electricity, such as Telsa, Edison, Fleming, Marconi and others. The August 2003 issue features the electrical experiments of Ben Franklin, as well as an article on "The Top Ten Dangerous Medicine Interactions." This newsletter also has wicked jokes, including this one:

NEW VIRUS WARNING – Hot on the heels of the W. Nile Virus comes the C-Nile Virus. It effects mainly those who were born before 1960. Symptoms of C-Nile Virus: causes you to send the same email twice; causes you to send blank email, and causes you to send it to the wrong person.

Check out one of the MARCO nets on 14.308 (schedule listed on the website) and you'll find a very entertaining and educational net.

CAROLINA

440

RAGCHEW

444.925 Durham	444.325 Holly Springs
444.375 Henderson	444.150 Clayton
444.775 Cary	PL Tones = 100.0Hz

Monday nights at 7:30pm

KD4RAA/K4JDR Repeater Group

Progress Energy Reaches out to Hams on BPL

By Gary Pearce KN4AQ, Wake County ARES PIO

Amateur Radio operators are seriously worried about BPL – Broadband Internet over Power Lines – and the interference potential it holds for High Frequency (and low VHF) operation. In the southeast, Raleigh NC based Progress Energy (formerly CP&L) has responded to many calls and e-mails from angry hams by contacting several local Amateur leaders and beginning a dialog that will include Amateur Radio in their BPL testing.

In October, Progress Energy network engineer Bill Godwin met separately with Wake County ARES EC Tom Brown, N4TAB, and me, and talked by phone with Technical Specialist Frank Lynch, W4FAL. The meetings were friendly. Godwin wanted to know more about Amateur Radio, what we thought our problems with BPL might be, and who in the Amateur community he and Progress Energy should work with. They are hearing from a lot of us, and needed to define the point of contact. In addition to those above, we identified North Carolina Section Manager John Covington W4CC, and ARRL Lab Supervisor Ed Hare W1RFI as a core group for Progress Energy to work with. Godwin set a positive tone by promising that we would be part of the next phase of testing, to begin early in 2004 in Wake County, NC.

Tom Brown N4TAB had the initial meeting with Godwin (and Chris Funari, another Progress Energy engineer). He said that they both had a basic understanding of the interference potential that BPL might cause to Amateur Radio. They discussed some of the regulations that BPL operates under (see the **BPL Primer** sidebar), and the Amateur Radio community. Brown introduced some ideas that Godwin and Funari hadn't considered yet, like the possibility of interference from hams to the BPL system in their neighborhood. Mostly, though, it was an initial meeting designed mostly for the people to get to know each other.

When I met with Bill Godwin two weeks later, we talked a little more about how BPL might affect Amateur Radio. I gave him a brief overview of the spectrum that BPL covers, noting that it is literally the *entire* spectrum available for worldwide ionospheric propagation. I showed him where Amateur Radio bands fit in that spectrum. And we tuned the bands a little.

We looked at the bottom of my cordless phone, and read the Part 15 language about not causing harmful interference to licensed services. Then I tuned in some weak signals on 20 meters, and I asked what “harmful interference” would be: making the signals slightly harder to hear? Difficult to hear? Impossible to hear? It was a good example of the difference between “meeting specs” and the real world. BPL hardware vendors say their systems “meet specs.” But they don't warn customers (like Progress Energy) about what real interference their systems can cause.

Godwin asked about notch filters. I explained that notching the ham spectrum might work, but it wouldn't protect other services like shortwave broadcast listeners, aviation, etc. And it wouldn't protect future bands that ham radio might get.

Phase I and II

Progress Energy completed their Phase I test in the Wakefield area of north Raleigh early last summer. Phase I was designed to give their engineers experience with the hardware, and let them know if it really worked. From their perspective, it did work. Computer users got better than expected connection speeds. Amateur Radio was not involved in that test, and no Amateur Radio interference monitoring was conducted. But they have been hearing from hams steadily, and stridently, ever since.

Phase II is planned for the end of the year and early 2004. It will be a larger test, somewhere in southern Wake County, though the location wasn't final as of this writing in early November. The test will focus more on marketing than technology, but we will be invited to participate, and our interest will be technical.

Both Phase I and II tests involve mostly underground wiring. ARRL Lab Supervisor Ed Hare's testing in areas with underground wiring showed that substantial interference still occurred with buried wiring, though above ground wiring was worse. Progress Energy is testing a system manufactured by Amperion. None of the four trial systems that Ed Hare observed were using Amperion equipment, but he has since visited one Amperion test site, and noted strong interference.

In late October, the town of Manassas, Virginia, announced the full commercial rollout of their BPL system, making it the first to move from trial to the market. The town owns the power system, and is subcontracting the operation of the BPL Internet distribution. The ARRL has warned the town government that interference to Amateur Radio operation is contrary to Part 15 regulation, and will not be tolerated.

Amateurs in the territory served by Progress Energy now have a cordial, official relationship with the company. But friendly or not, what might happen is not clear. The ARRL considers BPL to be a fatally flawed technology that is not needed in the marketplace. Progress Energy has not committed to a BPL rollout, but if their management determines that it will be a profitable product, we can expect them to want to implement it. If tests show that interference to the radio spectrum (and Amateur Radio) is the only significant problem, the company is not promising to abandon the product.

Continued on Page 9

ANTENNAS THAT WORK FOR ME!

by N4HQZ Pete Thacher

I thought I would pass along a few ideas for the group relative to wire antennas that have served me well in the past. Both are easy to build, cheap and work well on 10 thru 80 meters. I have done WAS on both with a bunch of foreign stations thrown in. These 2 antennas are the G5RV and the Collins Windom. They span 102' and 138' respectively and have worked for me even if the center is at a 90 degree angle to fit within the available trees.

G5RV, named for our British cousin who created it, is a simple dipole: 51' on each leg, fed with 35 feet of either 300ohm or 450ohm ladder line and wired into a piece of coax (longer the better) and then to the rig. I have tried both ladder lines as well as a commercial unit and I still like the 300ohm version without a balun, which comes usually with a commercial unit. Be sure to get decent 300ohm, radio shack quality is unacceptable, hard to work and tends to evaporate at more than 100watts. Recipe is:

Materials:

1. 105 ft of 10 or 12 gauge wire. [available from home supply outlet or your friendly electrician.
2. Two end insulators (commercial or make your own with PVC pipe).
3. Center insulator (2 commercial insulators/make your own with PVC or Plexiglas.
4. 35' of 300ohm ladder line.
5. Some electrical tape, twine and rope. (3/8 in parachute cords works well and is green so unseen plus.
6. 50ohm coax 60-100'. RG8X, the thin gray stuff is better than the big black stuff since less weight on the center part of antenna.
7. In-the-air installation kit (more to follow on this).

Construction:

Make each leg 51' or close from center to each end. I have found that a simple wrap of wire through the end insulator and back over the leg followed by taping works best. My Dad (W1HZQ) likes to solder, but I have found that the wind tends to work on that joint with subsequent failure. The same is true on center portion. So make the connection for the 300ohm to each leg with tape as a strain relief and tape well. [just as an aside, the approved USARMY Signal Corps method is to start at the middle, tape right to end, tape back to left to end and finish in the middle. Never pull the tape to

break, cut it]. Do the same when attaching the 300ohm to the center and the braid of the coax. All above measurements also relates to the Windom but cut one leg at 132' and the other at 44' and use whatever length of 300ohm that brings feed line to a convenient point near ground and connect to a 4:1 balun and then feed coax to shack.

There is an old adage. Higher is better. I subscribe to that adage. First less hassle from the XYL and neighbors and second, probably true for an RF standpoint. So how do we get these things 90-100' into the trees? I use the W1HZQ M1A1A3 slingshot/fishing rod unit. With a fishing reel permanently attached to a 1x2 (6'long) at front followed by a slingshot, one simply attaches a 1-2oz fishing weight to the fishing line (12-20lb test), releases the fishing reel and pull and shoot. Best to shoot over the tree, not through a branch, and best to shoot in fall or winter when leaves are gone. Another adage is that only an antenna installation in foul and miserable weather will exhibit a DB gain. This is obviously true. Once the weight is over and down, go into reverse and attach twine to the line and pull back over the tree, then attach the parachute cord and back over and pull up the antenna. I have heard that W4IZE uses a potato gun to accomplish the same effect but have not yet tried that approach.

In past days with tube finals, I never used a tuner and SWR on both was in 2:1 range. With solid-state units today, I do use a tuner to satisfy the somewhat more delicate finals.

There is lots more technical info available on the web. These represent only a few empirical observations that WORK FOR ME.

73'S

N4HQZ@INFOTRAK.NET

STATE FAIR 2003



Many thanks for those that worked the NC State Fair

John Guerriero KG4HDT, communications coordinator for the Red Cross at the Fair, leans into his laptop computer as hams look on at one of the orientation classes before the fair. We got a late start recruiting - both the hams and the Red Cross personnel were busy handling Hurricane Isabel just before the Fair. But hams responded to the call quickly and enthusiastically, filling up the schedule



With the old Red Cross Lounge now history, the First Aid Station was housed in this trailer. It was cramped, but as Dick Beach, one of the shift supervisors, said, "we're used to working under adverse conditions."



A RARS member donated this commercial base station radio that made the operation a lot easier

Photos by Gary KN4AQ



Wayne KD4SLQ at the radio operation position at the Red Cross trailer at the State Fair.



Dwayne Ayers N4MIO (far left of picture) looks on as Wayne Blackwell KD4SLQ gives non-ham Rose a review of radio operator procedures at the radio position in the Red Cross First Aid trailer. Dwayne is EC for Alamance County, and answered the call for operators to help at the fair.

Red Cross Orientation

Oct 5th 3-5 PM at the NCState fairgrounds
Oct 13 @ 7:30 PM at the Red Cross Training center
Oct 14 @ 7:30 PM at the Red Cross Training center

Talk-in for Orientation is 147.42 simplex.
Click [here](#) for a map to the Red Cross orientation site.

Date	9am - 2pm	2pm - 7pm	7pm - midnight
Friday Oct 17	*Jack W0UCE *Larry KG4FIQ	*Lee WB4DRJ *Bruce KC4UQN	*Tina *Missy
Saturday Oct 18	*Bruce KC4UQN *Veronica	*Israel N4ZVU *Clare N2RJB	*Tina *Missy
Sunday Oct 19	*Mike KC4WUH *Ashby W5PGX	*Bob K1RCB *Marian K1MRB	*Jim KI4BZB *Mike KC4WUH
Monday Oct 20	*Mary KG4OQA *Wayne KD4SLQ	*Larry KG4FIQ *Maury WW4MC	*Rob KI4BKE *John KG4HDT
Tuesday Oct 21	*Kerrell W4KGL *Chuck K4HF	*Ashby W5PGX *Maury WW4MC	*Bruce KC4UQN *Rob KI4BKE
Wednesday Oct 22	*Larry KG4FIQ *Anne KG4SWF	*Wayne KD4SLQ *Dwayne N4MIO	*Rose *Gary KN4AQ
Thursday Oct 23	*Ron KE4QAP *Kerrell W4KGL	*Mike KC4WUH *Jim KI4BZB	*Ashby W5PGX *Ken K7UGT
Friday Oct 24	*Ashby W5PGX *Mike KC4WUH	*April *Rose	*Tina *Missy
Saturday Oct 25	*Kerrell W4KGL *April	*Bud KG4IJQ *Israel N4ZVU	*Tina *Missy
Sunday Oct 26	*Wayne KD4SLQ *Clare N2RJB	*Bob K1RCB *Marian K1MRB	*Rose

Should hams stop contacting Progress Energy with questions and comments about BPL? No, not at all. The company needs to know that the concern is widespread. However, if you have a question or comment about Amateur Radio participation in testing BPL with Progress Energy, you should contact Tom Brown N4TAB (n4tab@arrl.net) and Frank Lynch W4FAL (w4fal@sera.org). If you have a comment about Progress Energy BPL and public relations, contact me (kn4aq@arrl.net). And for lots more information about BPL and Amateur Radio, visit the ARRL web site: www.arrl.org/tis/info/HTML/plc/

A BPL PRIMER

BPL – Broadband over Power Lines – became big news this year as the FCC appeared to embrace the technology that uses neighborhood power lines to distribute high-speed Internet to homes and businesses. Currently being tested in very limited areas (but in full rollout in Manassas, Virginia next year), BPL provides a third avenue of delivery, and competition to cable TV and phone-line delivered DSL.

BPL is a local delivery system. The Internet data is not carried long distances on the high-tension lines. It is carried from the electric substation on the medium and low voltage lines that criss-cross neighborhoods, either above ground on poles, or buried underground. The system being tested by Progress Energy does not bring the Internet all the way into the home or business using the power lines, though. It uses 802.11-based “wi-fi” wireless to bridge the final few feet between nodes in each neighborhood and the user’s computer.

BPL is attractive to consumers. It provides Internet access at speeds similar to DSL and cable. It may be available in more places, or at lower cost, and the increased competition may drive cable and DSL prices down as well. Imagine being able to get high-speed Internet access from your own account just by plugging into any AC outlet in town, as promoted by the town of Manassas.

But the BPL technology has a flaw. To distribute Internet data, BPL puts RF energy on the power lines in the 2 to 80 MHz range. The power lines were never designed to carry RF. Unlike cable TV wiring, the power lines are unshielded, and act as antennas. The BPL signals on the power lines are low power – QRP, if you will – but the signals can be heard many feet from the power line. Ed Hare W1RFI, the ARRL Lab Supervisor, set up a test vehicle and visited some of the BPL trial installations. His results are reported on the ARRL web site, where you can learn about BPL in depth, and download a short video that lets you see and hear what he observed. The web site is: www.arrl.org/tis/info/HTML/plc/

Ed found that BPL doesn’t generate one big “wall of noise” across the entire spectrum. There are several different BPL systems, using different technology, and each has a different effect and sound on HF. Some sound like a series of closely spaced carriers. Some make clicking and chirping sounds like a Geiger counter. Sometimes it sounds like a phone ringing. The signals are distributed unevenly across the spectrum, but where they are present, they can cover tens to hundreds of kilohertz at a time. And they can be strong – S9 or better – even a few hundred feet from a power line. The more data being carried (because nearby computer users are downloading files or web pages), the more HF spectrum is used.

BPL is regulated by Part 15, the section of the FCC rules covering unlicensed devices. That includes both radios intended to put a signal on the air (cordless phones, baby monitors), and “unintentional radiators” like computers, microwave ovens and BPL that don’t really want to be on the air, but can’t help letting a little RF escape. There are technical limits about how much RF can be radiated, and also a stipulation that the devices are not permitted to cause interference to licensed services (including Amateur Radio), and receive no protection from interference they receive from licensed services.

The FCC has a Notice of Inquiry (NOI) pending that asks if any changes to Part 15 are needed to accommodate BPL. The notice doesn’t make specific recommendations about changes. It just asks questions about how BPL might work, what problems it might cause, and how the rules might change to accommodate BPL, especially changes in signal measurement, since BPL defies the current test schemes. The NOI discusses the problem of interference to HF operation, and includes this paragraph of particular interest to hams:

18. Interference from BPL Emissions. In ... BPL technologies, multiple carriers spread signals over a broad range of frequencies that are used by other services that must be protected from interference. In the spectrum below 30 MHz, incumbent authorized operations include fixed, land mobile, aeronautical mobile, maritime mobile, radiolocation, broadcast radio, amateur radio terrestrial and satellite, and radioastronomy. In the spectrum from 30 to 300 MHz, incumbent authorized operations include fixed land mobile, aeronautical mobile, maritime mobile and mobile satellite, radioastronomy, amateur radio terrestrial and satellite, broadcasts TV and radio. This spectrum is also used for public safety and law enforcement, and Federal government aeronautical radionavigation, radionavigation satellite and radiolocation. Each of these authorized services in the spectrum must be protected from harmful interference.

Continued on page 10

BPL continued from page 9

The comment and reply comment period on this NOI expired last summer. The FCC received thousands of comments, the bulk of which came from hams asking that the systems be prohibited. Other HF spectrum users also protested.

BPL vendors and the power industry say that the systems being tested meet the Part 15 radiation limits. And they say that no tests have shown actual interference. In public comments to date, the power industry has carefully avoided any comment on the ARRL tests, although their reply comments to the NOI claim that the ARRL tests were flawed.

The ARRL position is that it's BPL that's flawed. BPL doesn't work without the risk of substantial interference to Amateur Radio and other HF spectrum users, and can't be made to work. Even if systems can be made to effectively notch the bands we use today, a widely deployed BPL infrastructure would effectively lock us *into* the current bands and *out of* any new HF bands, for two reasons: the notches wouldn't protect the new bands from interference, and they wouldn't protect the BPL system from interference *from us* on those bands.

And yes, hams could cause interference to their neighborhood BPL systems. The ARRL calculates that the BPL energy in the power wiring would be a few hundred milliwatts. An Amateur Radio signal from a legal-limit station, running a gain antenna, could induce several *watts* of energy in the line. So although the ham would be on one narrow spot frequency compared to the broadband BPL signal, the BPL amplifiers could be overloaded, producing artifacts that interfere across the BPL spectrum or even shutting the amplifier down completely. The effect: another reason for a neighbor to be unhappy with a neighborhood Amateur.

If all of this sounds like a "no-brainer" – that BPL just can't and won't be permitted to be built and enter the marketplace – then you haven't been paying attention. So far, the marketplace, and the regulatory system (the FCC) are ignoring complaints by Amateur Radio and other HF spectrum users. BPL is being promoted joyfully as the way to get high-speed Internet into more places than ever, at lower cost.

For more information on BPL, including the ARRL comments to the FCC, video of Ed Hare's mobile tests at some of the BPL trial sites, and links to a vast array of BPL information, visit this ARRL web site:

www.arrl.org/tis/info/HTML/plc/

- Digital print-on-demand
- Both small and large format
- Color and black & white
- High-volume print solutions
- One-to-one marketing solutions
- Full service bindery and finishing

www.docusourceofnc.com

951 Aviation Parkway
Suite 600
Morrisville, NC 27560
919-459-5900

Centrally located in the heart of the Triangle!



relax; **docu**source it.

**The Central Carolina
Skywarn Net Meets
Tuesdays at 9:15 PM
on 146.88 Repeater**

Remember to give damage reports **AFTER**
the storms as well as **DURING** the storms.



Photo by Denyse KG4CXR

The Skywarn Dinner was held on October 26 at El Rodeo Restaurant. The next meeting will be Sunday, **January 25, 2004**. We will skip November & December because of the holidays. The next meeting will be near Louisburg.

December 6 will be the Skywarn recognition day, we will need operators for this contest. Please contact Denyse KG4CXR at 468.5358 if you would like to participate.

The winter season is coming up fast, we will need operators for the Skywarn nets during ice storms. The IRLP linking system will be used for winter storms for reports from Triad and Central Carolina Skywarn.

RARS NEW MEMBERS

NOVEMBER 2003

We would like to welcome our new member to RARS. Thank you for considering us for your amateur radio club.

Larry W4WIV

**Join Us At the RARS Dinner for the whole
family not just the ham in the family.**



**MONDAY NOV- 24, 6:30 pm at
Golden Corral on Glenwood Ave.**

NOTICE CHANGE IN DAY Not Tuesday

HAMFEST CALENDAR

February 8	Richmond, VA
February 22*	Elkin, NC
March 13-14	Charlotte, NC
March 21	Kinston, NC
APRIL 4	RALEIGH, NC
April 17	Morganton, NC
April 24	Chesapeake, VA

* Date is not confirmed

Courtesy of the SERA Repeater Journal



2003 STATE FAIR



On warm afternoons, the crew at Station "B" hung out outside. Call'em on the radio, Wayne told me. They can't hear the phone ring from out there.



Since the First Aid trailer was "too small," this is where the First Aid teams were supposed to hang out when they weren't on a call or roving. In reality, most of the time they hung out in the trailer by the radio operators. It was cramped, but friendly.

Photos by Gary KN4AQ